Notebook, N-01-04-17

This undated notebook was probably used in late April 1901. The book contains notes, primarily by Edison, regarding tests of various alloys for use in thermocouples (see also N-01-04-15, N-01-04-16, and N-01-04-19). Among the metals involved are antimony, arsenic, bismuth, lead, nickel, tin, and zinc. At the beginning of the book are entries by an unidentified experimenter. One page of notes by Edison has been inserted into the book. The spine is stamped "16[1]." The pages are unnumbered. Approximately 85 pages have been used.

XE-172 N-(01-04-17)

S.B 87 Broke six times and
Z.N 13 Caked the seventh time

S.B 70 Broke three times Caked the
Z.N 30 fourth.

S.B 62 Broke 3 caked the
Z.N 38 fourth

S.B. 61 Broke would not cake
Z.N. 39

S.B. 60 Broke twice caked third
Z.N 40 time

S.B. 20
C.W. 80 Would not Cake

S.B. 10
C.W. 90 Could not get heat enough

S.B. 50
S. 50 Would not cake

All Sulfohm's are very brittle

S.b 75
Am.P 25 would not melt but burn

All Am. P burns

S.b
a.s Would not melt but caught fire.

S.b
a.l Could not get heat enough

S.b
h.a All are very brittle

S.b
Co Cannot get heat enough

S.b
h.i Cannot get heat enough.

S.b
Cannot get heat enough.
Ferromanganese

S.b
m.s Will not melt but burn

Sb
Tungsten. cannot get heat enough.

Sb
F.C. Cannot get heat enough

Sb
Cus Will not take below
Sb70 + Cu S30

Sb
SnS Will not take below
Sb70 + SnS30

Sb
Sb_2S_3 Will not take below
Sb35 + Sb_2S_3 65

Sb
PbS does not mix well

Sb
PbS Will not take below
Sb50 PbS50

Sb.
CdS does not mix well

Sb
CdS Cad floats on Sb 70
CdS 30

Sb
CdS Cad will not melt below
Sb 70 CdS 30

Sb 75
NiS 25 Will not cake

Sb 80
NiS 20 Would not cake

Sb 75
Co S 25 Will not cake

Sb 80
CoS 20 Would not cake

Sb does not mix well
NaWo

Sb 55
NaWo 45 Will not Cake

Sb
Hg_2S does not mix at all

Sb
Mn_2S does not melt stays in powder form.

Sb Will not melt stays in
FeS Powder form

Sb Would not mix or cake
K_2

Sb Would not cake below
KWO_4 75 Sb + KWO_4 25 -

Sb Tried 4 different ways
$BaMnO_4$ and would not melt or Cake

Sb Will not cake or melt
WyP_2

Sb Would not cake below
Hg_2S Sb 30 + Hg_2S 70

Sb 60 Would not cake whole
(Zn+Sn 95+5) 40 broke three times

Sb 65
Zn+Sn
45-55 35 Would not cake broke

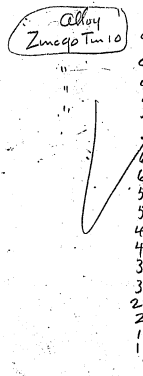
Tried Arsenic on all different metals Tried each metal with 95 as + 75 as but could not get over 5 g in certain metals.

alloy Sb
Zn+Bi All are very brittle
5 95 most would not cake whole

alloy Sb
Zn+Bi Had to make some
5+95 twice before they would Cake

alloy Sn Cd 95 Bi 5 Cd does not melt but burn had to make some twice

Alloy of 90 Zinc & 10 of Tin —



(1)

John

Tell the boy who is making alloys that after he has made all the alloys he can from the Sulphides + Phosphides to [redacted] go on Zinc.

Thus —

Zinc	Tin
95	5
90	10
85	15
80	20
75	25
70	30
65	35
60	40
55	45
50	50
45	55
40	60
35	65
30	70
25	75
20	80
15	85
10	90
5	95

~~Zinc Tin~~
c

Alloy of Zinc 85 Tin 15 —

Alloy Zinc 95 Tin 5	Antimony 5
90	10
85	15
80	20
75	25
70	30
65	35
60	40
55	45
50	50
45	55
40	60
35	65
30	70
25	75
20	80
15	85
10	90
5	95

Alloy of Zinc 80 Tin 20 -

Alloy Zn 80 Tin 20

11

95	5
90	10
85	15
80	20
75	25
70	30
65	35
60	40
55	45
50	50
45	55
40	60
35	65
30	70
25	75
20	80
15	85
10	90
5	95

Antimony

Alloy of Zinc 75 Tin 25

Alloy Zinc 75 Tin 25 95 Antimony 5
" 90 10
85 15
80 20
75 25
70 30
65 35
60 40
55 45
50 50
45 55
40 60
35 65
30 70
25 75
20 80
15 85
10 90
5 95

Alloy Zinc 70 Tin 30

Alloy Zinc 70 Tin 30.

95	Antimony 5
90	10
85	15
80	20
75	25
70	30
65	35
60	40
55	45
50	50
45	55
40	60
35	65
30	70
25	75
20	80
15	85
10	90
5	95

Alloy 65 Zinc 35 Tin

Alloy Zinc 65 Tin 35

95	Antimony 5
90	" 10
85	15
80	20
75	25
70	30
65	35
60	40
55	45
50	50
45	55
40	60
35	65
30	70
25	75
20	80
15	85
10	90
5	95

Alloy Zinc 60 Tin 40 –

Alloy Zinc 60 Tin 40) 95 Antimony 5
" 90 " 10
" 85 15
80 20
75 25
70 30
65 35
60 40
55 45
50 50
45 55
40 60
35 65
30 70
25 75
20 80
15 85
10 90
9 91

Alloy Zinc 55 Tin 45.

Alloy Zinc 55 Tin 45 95 antimony 5

90	10
85	15
80	20
75	25
70	30
65	35
60	40
55	45
50	50
45	55
40	60
35	65
30	70
25	75
20	80
15	85
10	90
5	95

Alloy Zinc 50 Tin 50.

Alloy Zinc 50 Tin 50	95	5
"	90	10
"	85	15
"	80	20
"	75	25
"	70	30
	65	35
	60	40
	55	45
	50	50
	45	55
	40	60
	35	65
	30	70
	25	75
	20	80
	15	85
	10	90
	5	95

Allroy Zuic 45 Tm 55

Allroy Zuic 45 Tm 55

	95	Autumn 5
	90	10
	85	15
	80	20
	75	25
	70	30
	65	35
	60	40
	55	45
	50	50
	45	55
	40	60
	35	65
	30	70
	25	75
	20	80
	15	85
	10	90
	5	95

Alloy Zinc 40 Tin 60

Alloy Zinc 40 Tin 60 95 Antimony 5

" 90	10
" 85	15
" 80	20
" 75	25
" 70	30
" 65	35
" 60	40
" 55	45
" 50	50
" 45	55
" 40	60
" 35	65
" 30	70
" 25	75
" 20	80
" 15	85
" 10	90
" 5	95

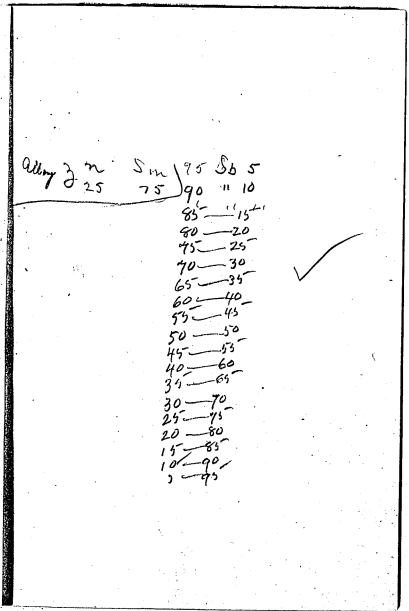
Zinc 35 Tin 65

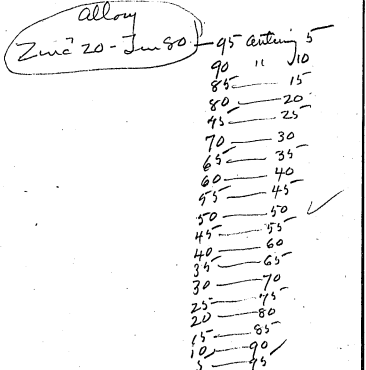
alloy Zinc 35 Tin 65	95 Antimony	5
"	90	10
"	85	15
	80	20
	75	25
	70	30
	65	35
	60	40
	55	45
	50	50
	45	55
	40	60
	35	65
	30	70
	25	75
	20	80
	15	85
	10	90
	5	95

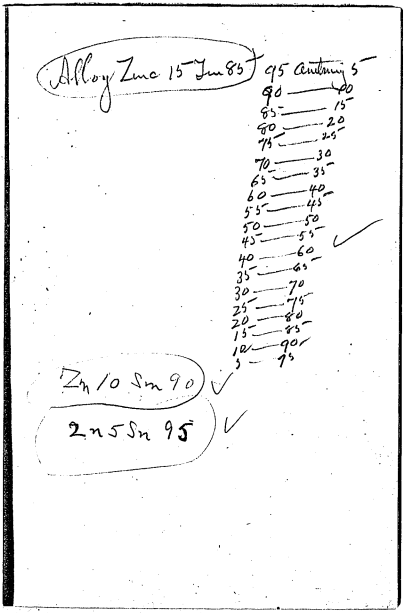
✓

Alloy Zinc 30 Tin 70 -

Alloy Zinc 30 Tin 70 95 Containing 5
" 90 — 10
" 85 — 15
" 80 — 20
" 75 — 25
" 70 — 30
" 65 — 35
" 60 — 40
" 55 — 45
" 50 — 50
" 45 — 55
" 40 — 60
" 35 — 65
" 30 — 70
" 25 — 75
" 20 — 80
" 15 — 85
" 10 — 90
" 5 — 95


Alloy 3 m 25
Sm 75
95 Sb 5
90 " 10
85 " 15
80 — 20
75 — 25
70 — 30
65 — 35
60 — 40
55 — 45
50 — 50
45 — 55
40 — 60
35 — 65
30 — 70
25 — 75
20 — 80
15 — 85
10 — 90
5 — 95


alloy
Zinc 20 - Tin 80
95 centering 5
90 " 10
85 15
80 20
75 25
70 30
65 35
60 40
55 45
50 50
45 55
40 60
35 65
30 70
25 75
20 80
15 85
10 90
5 95


Alloy Zinc 15 Tin 85
95 antimony 5
90 10
85 15
80 20
75 25
70 30
65 35
60 40
55 45
50 50
45 55
40 60
35 65
30 70
25 75
20 80
15 85
10 90
5 95
Zn 10 Sn 90
Zn 5 Sn 95

~~Alloy Zn 5 Arsenic 95 — Antimony~~

Alloy Zn 5 arsenic 95

5	Antimony	95
10		90
15		85
20		80
25		75
30		70
35		65
40		60
45		55
50		50
55		45
60		40
65		35
70		30
75		25
80		20
85		15
90		10
95		5

Alloy
Zn 10 arsenic 90

5 antimony 95

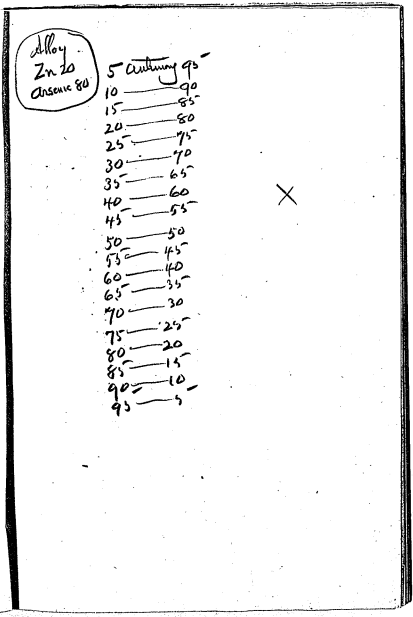
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

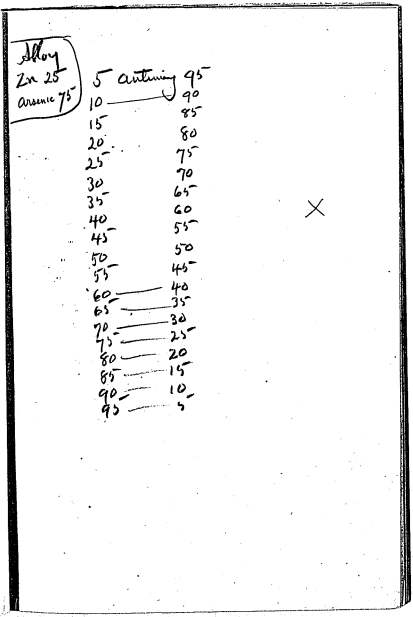
X

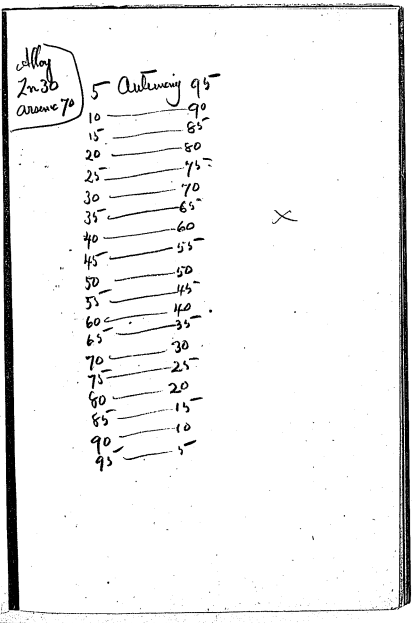
Alloy
Zn 15
arsenic 85

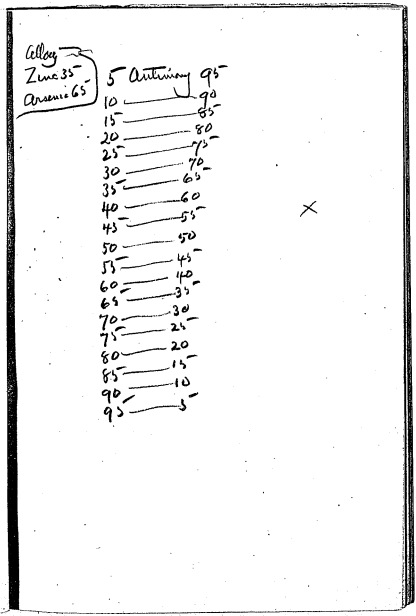
5	Antimony 95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
~~50~~	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

X


alloy
Zn 20
arsenic 80
5 antimony 95
10 90
15 85
20 80
25 75
30 70
35 65
40 60
45 55
50 50
55 45
60 40
65 35
70 30
75 25
80 20
85 15
90 10
95 5


Alloy
Zn 25
arsenic 75
5 antimony 95
10 90
15 85
20 80
25 75
30 70
35 65
40 60
45 55
50 50
55 45
60 40
65 35
70 30
75 25
80 20
85 15
90 10
95 5


alloy
Zn 30
arsenic 70
5 Antimony 95
10 90
15 85
20 80
25 75
30 70
35 65
40 60
45 55
50 50
55 45
60 40
65 35
70 30
75 25
80 20
85 15
90 10
95 5


Alloy
Zinc 35
Arsenic 65
5 Antimony 95
10 90
15 85
20 80
25 75
30 70
35 65
40 60
45 55
50 50
55 45
60 40
65 35
70 30
75 25
80 20
85 15
90 10
95 5

Alloy
Zinc 40
Arsenic 60

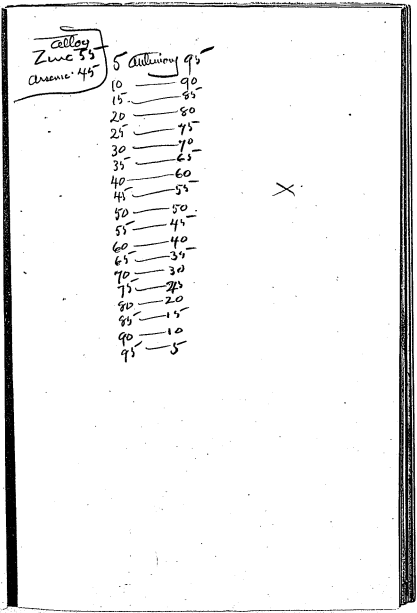
5 Antimony 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Zinc 45
Arsenic 55

5 Antimony 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

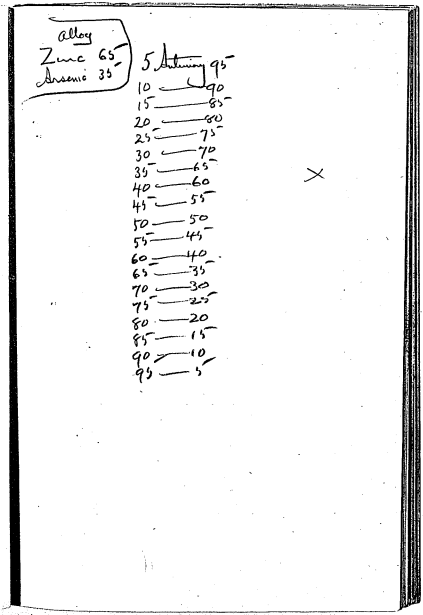
alloy
Zinc 50
Arsenic 50

5 Stationing 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5


Calloy
Zinc 55
Arsenic 45
5 Antimony 95
10 90
15 85
20 80
25 75
30 70
35 65
40 60
45 55
50 50
55 45
60 40
65 35
70 30
75 25
80 20
85 15
90 10
95 5

Alloy
Zinc 60
Arsenic 40

5 Antimony 95
10 " 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5


alloy
Zinc 65
Arsenic 35
5 Antimony 95
10 90
15 85
20 80
25 75
30 70
35 65
40 60
45 55
50 50
55 45
60 40
65 35
70 30
75 25
80 20
85 15
90 10
95 5

Alloy
Zinc 70
Arsenic 30

5 Antimony 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Alloy

Zinc 75

Arsenic 25

5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

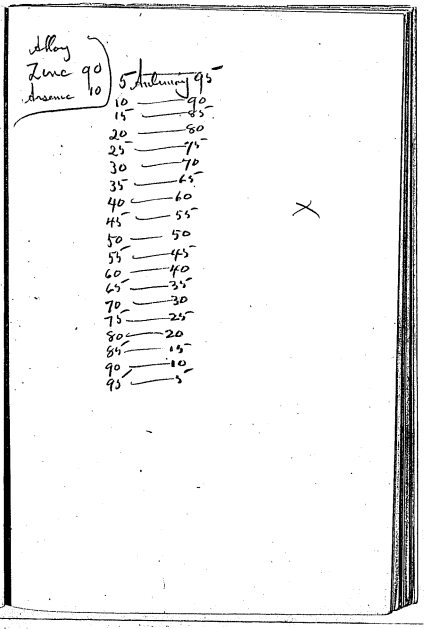
Alloy
Zinc 80
Aromic 20

5 Antimony 95

10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Ashby
Lime 85
anaemia 15

5 Autumn 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5


Alloy
Zinc 90
Arsenic 10
5 Antimony 95
10 90
15 85
20 80
25 75
30 70
35 65
40 60
45 55
50 50
55 45
60 40
65 35
70 30
75 25
80 20
85 15
90 10
95 5

Ether
Zinc 95
Arsenic 5

5 Antimony 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Alloy
Zinc 5
Bismuth 95

Nees

Sn	Sb
5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Alloy
Zinc 10
Bismuth 90

5	Sb 95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Colloay
Zinc 15
Bismuth 85

5 Sb 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

✓

Alloy
Zinc 20
Bismuth 80

5 lb 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Alloy
Zinc 25
Bismuth 75

5	Sb	95
10		90
15		85
20		80
25		75
30		70
35		65
40		60
45		55
50		50
55		45
60		40
65		35
70		30
75		25
80		20
85		15
90		10
95		5

Alloy

Zinc 30

Britannia 70

5	Sb 95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Alloy
Zinc 35
Bismuth 65

5	Sb 95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

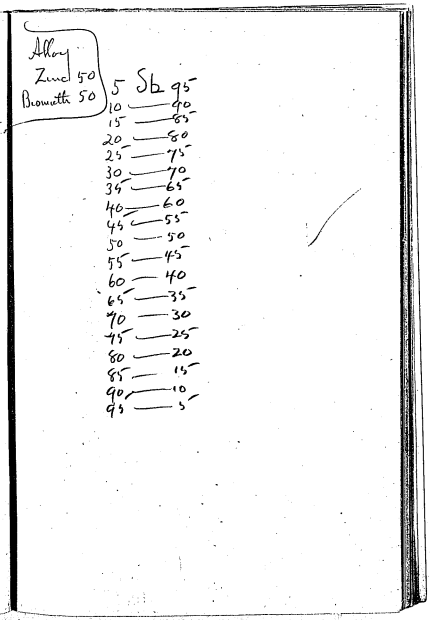
Alloy

Zinc 40 — Sb 95
Bismuth 60

5 — 90
10 — 85
15 — 80
20 — 75
25 — 70
30 — 65
35 — 60
40 — 55
45 — 50
50 — 45
55 — 40
60 — 35
65 — 30
70 — 25
75 — 20
80 — 15
85 — 10
90 — 5
95

Allens
Zinc 45
Bromwich 55

5	Sbys
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5


Alloy
Zinc 50
Bismuth 50
5 Sb 95
10 90
15 85
20 80
25 75
30 70
35 65
40 60
45 55
50 50
55 45
60 40
65 35
70 30
75 25
80 20
85 15
90 10
95 5

Celloy
Zinc 55
Bismuth 45

Sn	Sb
5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Alloy Zinc 5 Tin 95

95	Antimony 5
90	10
85	15
80	20
75	25
70	30
65	35
60	40
55	45
50	50
45	55
40	60
35	65
30	70
25	75
20	80
15	85
10	90
5	95

Alloy Zinc 10 Tin 90

95	5
90	10
85	15
80	20
75	25
70	30
65	35
60	40
55	45
50	55
45	60
40	65
35	70
30	75
25	80
20	85
15	90
10	95
5	

Alloy
Zinc 60
Bismuth 40

5	Sb 95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Alloy

Zinc	Bismuth	Tin	Lead
65	35	5	95
		10	90
		15	85
		20	80
		25	75
		30	70
		35	65
		40	60
		45	55
		50	50
		55	45
		60	40
		65	35
		70	30
		75	25
		80	20
		85	15
		90	10
		95	5

Alloy
Zinc 70
Bismuth 30

5	Sb 95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Alloy

Zinc	Sb
75	25
5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Alloy
Zinc 80
Bismuth 20

5	Sb 95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Alloy
Zinc 85
Bismuth 15

5	Sb 95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

✓

Antimony
Zinc 90
Bismuth 10

5 — Sb 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Alloy

Zinc	Sb
95	5
90	10
85	15
80	20
75	25
70	30
65	35
60	40
55	45
50	50
45	55
40	60
35	65
30	70
25	75
20	80
15	85
10	90
5	95

Bismuth 5

Tin 5 — Bismuth 95

5	Sb 95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Jun 10
Bromth 90

5	85	95
10		90
15		85
20		80
25		75
30		70
35		65
40		60
45		55
50		50
55		45
60		40
65		35
70		30
75		25
80		20
85		15
90		10
95		5

Jun 15 / Brownth 85

5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Jun 20
Bromwich 80

5	56	95
10		90
15		85
20		80
25		75
30		70
35		65
40		60
45		55
50		50
55		45
60		40
65		35
70		30
75		25
80		20
85		15
90		10
95		5

Jan 25 / Brunette 75

5 — 85 — 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Jun 30
Bismuth 70

5 — 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Jun 35
Bennett 65

5	95	95
10		90
15		85
20		80
25		75
30		70
35		65
40		60
45		55
50		50
55		45
60		40
65		35
70		30
75		25
80		20
85		15
90		10
95		5

Jun 40
Bismuth 60

5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Jun 45 } 5 — 56 95
Bismuth 55 } 10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Jun 50
Beamish 50

5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Jun 55
Bromwith 45

5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Jun 60 Bromwich 40

5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Jan 65
Bismuth 35

5 — 56 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Jan 70
Bramwith 30

5 — 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

✓

Jim 75
Bismuth 25

5 — 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Jun 80
Bromwith 20

5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Jun 85
Branch 15

5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Jun 90
Bismuth 10

5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Jun 95 5 — 56 95
Barometer 5
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Lead 95
Bronett 5

5 — 85 95
10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Lead 90
Bismuth 10

5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Head 85
Brownrick 15

5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Lead 80
Bismuth 20

5	Sb 95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Lead	75	5	Sb	95
Bismuth	25	10		90
		15		85
		20		80
		25		75
		30		70
		35		65
		40		60
		45		55
		50		50
		55		45
		60		40
		65		35
		70		30
		75		25
		80		20
		85		15
		90		10
		95		5

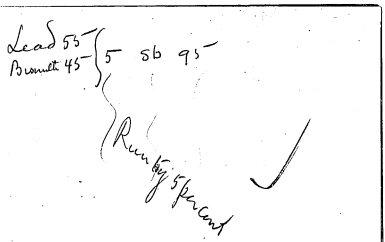
Lead 70 } 5 — Sb 95
Bismuth 30 } 10 — 90
15 — 85
20 — 80
25 — 75
30 — 70
35 — 65
40 — 60
45 — 55
50 — 50
55 — 45
60 — 40
65 — 35
70 — 30
75 — 25
80 — 20
85 — 15
90 — 10
95 — 5

Lead 65
Bismuth 35

	Sb 95
5	
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Lead 60
Bismuth 40

5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5


Lead 55
Bismuth 45
5 5b 95
Run by 5 per cent

Lead 50
Bismuth 50 } 5- Sb 95-

Run by 5 per cent

Lead 45
Bismuth 55 } 5- Sb 95-

Run by 5 per cent

Lead 40
Bismuth 60 } 5- Sb 95-

Run by 5 per cent

Lead 35
Bismuth 65 } 5- Sb 95-

Run by 5 per cent

Lead 30 / Bismuth 70 } 5 — Sb 9s — ✓
Ramby 5 pieces

Lead 25 / Bismuth 75 } 5 — Sb 9s — ✓
ditto

Lead 20 / Bismuth 80 } 5 — Sb 9s — ✓
ditto

Lead 15 / Bismuth 85 } 5 — Sb 9s — ✓
ditto

Lead 10 / Bismuth 90 } 5 — Sb 9s — ✓
ditto

Lead 5 / Bismuth 95 } 5 — Sb 9s — ✓
ditto

Cadmium 5
Bismuth 95
} 5 5b 95
Run the whole by 5 percent.

Cad 10
Bi 90

Cad 15
Bi 85

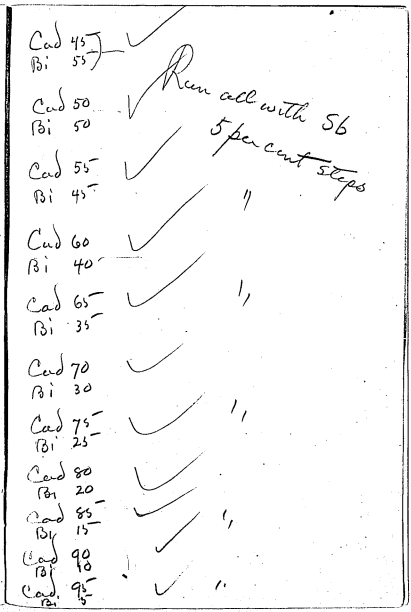
Cad 20
Bi 80

Cad 25
Bi 75

Cad 30
Bi 70

Cad 35
Bi 65

Cad 40
Bi 60


Cad 45
Bi 55
Cad 50
Bi 50
Cad 55
Bi 45
Cad 60
Bi 40
Cad 65
Bi 35
Cad 70
Bi 30
Cad 75
Bi 25
Cad 80
Bi 20
Cad 85
Bi 15
Cad 90
Bi 10
Cad 95
Bi 5
Run all with 56
5 per cent steps
"
"
"
"

Selamin

Selamin

5 Autumn 95

" 10 " 90

15 85

20 80

25 75

30 70

35 65

40 60

45 55

50 50

55 45

60 40

65 35

70 30

75 25

80 20

85 15

90 10

95 5

Zinc X
Cadmium X

Alloy		Quench stick
Cadmium 99	Selenium 1	~~Antimony~~ 5.50 Antimony 4.50
98	2	
97	3	
96	4	
95	5	
94	6	
93	7	
92	8	
91	9	
90	10	
89	11	
88	12	
87	13	
86	14	
85	15	
84	16	
83	17	
82	18	
81	19	
80	20	

X

Small stick

Cadmium 99	Tellurium 1	5.50 Antimony 450.
98	2	
97	3	
96	4	
95	5	
94	6	
93	7	
92	8	
91	9	
90	10	
89	11	
88	12	
87	13	
86	14	
85	15	
84	16	
83	17	
82	18	
81	99	
80	20	

Small sticks

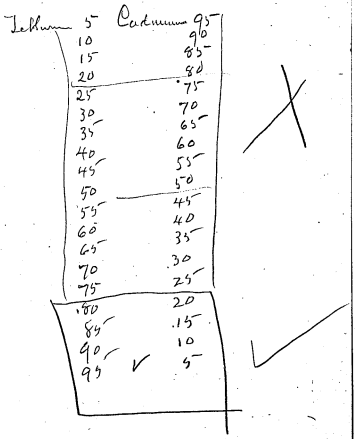
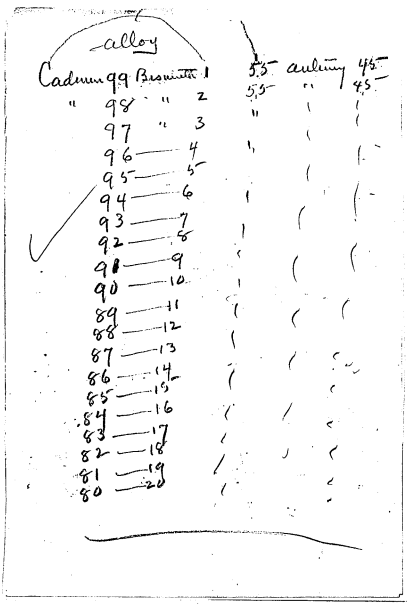
Tellurium	Antimony
5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

Quiall Stick

Tellurium	Zinc
5	95
10	90
15	85
20	80
25	75
30	70
35	65
40	60
45	55
50	50
55	45
60	40
65	35
70	30
75	25
80	20
85	15
90	10
95	5

X

✓


Tellurium
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
Cadmium
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5

[ITEM FOUND IN BOOK]